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10/785,060

02/25/2004

Jim Threlkeld

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07/27/2006

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EXAMINER

MERCIER, MELISSA S

ART UNIT

PAPER NUMBER

1615

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/785,060

Applicant(s)

THRELKELD ET AL.

Examiner

Melissa S. Mercier

Art Unit

1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-18 is/are rejected.
- 7) ☒ Claim(s) 13 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2-14-05, 5-31-06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

The disclosure is objected to because of the following informalities: the application number is not printed on the top of the first page.

Appropriate correction is required.

Claim Objections

Claims 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-4, 7, 9, 11, and 18 rejected under 35 U.S.C. 102(b) as being anticipated by Rubin et al. (US Patent 5,565,265).

Rubin teaches “a liquid and stain resistant, antimicrobial fabric which can withstand the high temperatures required for transfer printing. A coating composition comprising a copolymer composition, an antimicrobial agent and a fluorochemical composition are applied to fabric to produce the coated fabric” (abstract).

Formulation A of Specific Example 1 (coating composition) comprises:

Acrylic Polymer (5-10% weight)

Fluorochemical (4-8% weight)

Biocide/Mildewcide (0.25-1% weight)

Water (remainder to 100% weight).

Formulation B of Specific Example 2 comprises:

Acrylic latex polymer (90-95% weight)

Fluorochemical (4-6% weight)

Biocide/Mildewcide (0.25-1% weight)

Thickener (1-3% weight)

According to Specific Example 2 (method of coating fabric using Formulation A), "fabric is placed on A Frames and then placed on a tenterframe. The fabric is then coated with all the ingredients in liquid form. On the first pass, the fabric is completely wet. It is then passes through an oven at approximately 300 degrees F to about 350 degrees F" (column 3, lines 52-64). The examiner is interpreting the method steps to indicate the fabric being completely submerged into Formulation A, removed from the bath, and then dried.

Regarding Claim 2, Rubin teaches, "the most preferred method of coating the fabric is by dipping, to ensure complete coverage. The fabric may also be dipped numerous times to completely cover the fabric" (column 2, lines 24-25). One of ordinary skill in the art would interpret this to include using the bath to coat numerous fabric articles in addition to numerous coatings of the same article.

Regarding Claim 3, Specific Example 2, further teaches "formulation B is applied at a constant thickness of about 1 mm with a blade. The purpose of this coating is to fill in the spaces between yarns" (column 4, lines 8-9).

Regarding Claims 7 and 9, applicant's specification states that "a continuous process includes both truly continuous processes and semi continuous processes in which there are periodic stops for product type changes, other line medications or any other reason" (page 6, lines 22-25). Rubin's Specific Example 2 teaches the method of coating the fabric to be accomplished in 3 different passes. Pass One, wherein the fabric is coated with a mixture of acrylic latex polymers, fluorochemicals, and antibacterial, chemicals, Pass Two, wherein, the fabric remains on the tenterframe and

Art Unit: 1615

is coated with a fine layer of acrylic latex polymers, fluorochemicals, and antimicrobial agents, and Pass Three, which is identical to Pass Two. The fabric is also dried in an oven between passes.

Regarding Claim 11, "the antimicrobial agent comprises about 0.25% to about 1% by weight of the coating composition. Rubin's defines an antimicrobial agent to be "any substance or combination of substances that kills or prevents the growth of a microorganism, and includes antibiotics, antifungal, antiviral, and antialgal agents" (column 2, lines 38-43).

Claims 1, 4, 12 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Omura (US Patent 6,384,254).

Omura teaches a fiber or fabric treating agent composition comprising the quaternary ammonium salt-containing polysiloxane as a main component. "A variety of fibers and fibrous materials can be treated with fiber or fabric treating agent composition, by adjusting the emulsion of the composition to a suitable concentration, and applying the emulsion to fibers or fabrics as by dipping, spraying or roll coating. As a general rule, an appropriate coating weight of the quaternary ammonium salt-containing polysiloxane is about 0.01 to 10% by weight based on the weight of the fibers or fabric. The coated fabrics are then dried by hot air blowing or in a heating furnace. The drying conditions include about 100-150 degrees C" (column 8, lines 4-18).

Claims 1-2, 4-6, 9-10 and 18 rejected under 35 U.S.C. 102(b) as being anticipated by Brier (US Patent 6,756,076).

Brier teaches "a process for producing hydrophobic cotton fabric view a multi-step manufacturing process that results in a fabric that retains its hydrophobic characteristics even after numerous machine washings. Cotton fabric according to the process disclosed by Brier is suitable for use in various applications wherein a hydrophobic cotton material is desired, such as clothing, undergarments, incontinence products, underarm cotton shields, bedding products, diapers, apparel, and lingerie items, furniture coverings and fabric, curtains, gloves, footwear, headwear, tents, sleeping bags, and lab coats (column 1, lines 55-66).

Brier further teaches "the process may be adapted to produce fabric having both antibacterial and water repellant properties according to the following steps:

1. bleaching the cotton fabric with a suitable optical whitener
2. affixing the fabric to a conveying machine
3. applying approximately 3lbs of antibacterial substance and 2lbs of water repellent for each approximately 100lbs of cotton fabric by conveying the fabric through a pad bath
4. conveying the fabric through a tenter frame machine having a heating device set at approximately 325 degrees F at a speed of approximately 40 yards per minute
5. repeating step 4 a second time to effect curing of the chemicals thereby resulting in a water resistant cotton fabric. Brier uses the bacteriostat, triclosan, however, the use of any suitable equivalent compound is considered to be within the scope of their invention" (column 3, lines 41-60, column 4, lines 1-10).

Regarding Claim 2, the process of Brier states in step 5, that the process could be repeated a second time.

Art Unit: 1615

Regarding Claim 9, the process of Brier described above states in step 4, the fabric is conveyed through a tenter frame machine. This would indicate to one of ordinary skill in the art that the fabric is being continuously pulled through the pad bath.

Regarding Claim 10, according to the drawings supplied by Brier, one of ordinary skill in the art would recognize that in order for the fabric to be fed through the tenter frame, it would have to be wound in a roll and mounted onto the apparatus.

Claims 1, 3-5, 7, 9, 11, 15-16, and 18 rejected under 35 U.S.C. 102(b) as being anticipated by Levy et al. (US Patent 5,707,736).

Levy teaches a "dry, disposable, polymeric products having sustained-release anti-microbial activity, the product consisting essentially of a polymeric material selected from the group consisting of fibers, fabrics, sheets, films, and other stable woven, non-woven, and knitted materials prepared from natural, man-made and synthetic polymers and an amine salt anti-microbial agent, the anti-microbial agent being incorporated in the polymeric material without an intermediary adhesive, carrier or linking agent and being releasable therefore in anti-microbial effective amounts" (abstract).

Levy further teaches the products are "produced by: the polymeric materials are brought into contact with a solution of the antimicrobial agent by immersion, spraying, or coating; the solvent is separated from the treated polymeric material by soaking, evaporation, centrifugations, and the polymeric materials are then dried by utilizing forced hot air, oven drying, air at room temperature, microwave driving, or the use of heated drying drums, and vacuum chambers" (column 4, lines 19-28).

Art Unit: 1615

Regarding Claim 3, Example 4 of Levy describes "yarns made of cotton, viscose, and nylon were soaked in aqueous solutions of chlorohexidine hydrochloride or chlorohexidine gluconate, dried, and their antimicrobial activity was tested" (column 5, lines 65-67, column 6, lines 1-3).

Regarding Claims 7, 9, and 16-17 Levy additionally teaches, "the fabric is immersed in a tub containing a diluted anti-microbial agent at room temperature, in a continuous process, the fabric is partially dried by being pressed with a padder. Drying is done by a dryer, i.e., a hot air blowing chamber or a hot drum chamber, heated up to 120 C" (column 4, lines 28-33).

Regarding Claim 11, Example 1 of Levy describes "a matrix made of cotton gauze 75mm wide was soaked in 0.5% chlorohexidine gluconate aqueous solution at 25C and dried by forced hot air at 60C in a continuous process" (column 4, lines 60-64).

Regarding Claim 15, the examiner is interpreting the immersion step described above, by soaking and centrifugation to include the use of a washing machine. Standard washing machines uses these two functions as part of their cycles. The examiner is further interpreting the drying step utilizing a heated drying drum to include standard clothing drying.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Knieler et al. (US Patent 6,160,196) and Clark et al. (US Patent 6,712,121).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 7-9, 11, 13-14 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin et al. in view of Ohno et al. (US Patent 4,993,651) and Clark et al. (US Patent 6,712,121).

Art Unit: 1615

Rubin's teaches are described about and applied in the same manner.

Rubin's does not teach a method of providing antimicrobial properties to a composite yarn wound on a bobbin.

Ohno teaches a method of winding yarn onto a bobbin. It would be obvious to one of ordinary skill in the art at the time the invention was made to combine the bobbin threading teachings of Ohno with the anti-microbial coating techniques of Rubin in order to obtain a bobbin of yarn to be used in standard sewing machines. Applicant would have a reasonable expectation that the yarn would possess the anti-microbial properties desired, since the yarn would absorb the antimicrobial agent in the bath.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa S. Mercier whose telephone number is (571) 272-9039. The examiner can normally be reached on 7:30am-4pm Mon through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on (571) 272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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